

The articulation of the Community of Inquiry Framework in the Online Discussion

¹Endro Dwi Hatmanto, ^{*2}Bambang Widi Pratolo

Abstract: *With the emergence of blended learning environment, lecturers have to be capable of teaching successfully. One of the strategies is by cultivating the learning community which requires lecturers to be the facilitators of learning and students to be active participants in the learning process. The learning community finds its ideal format in the community of inquiry (CoI) framework consisting of teaching, social and cognitive presence. The manifestation of the CoI is the implementation online discussion. This research aims to reveal the advantages of using online discussion and the extent to which the CoI principles had been present in the online discussion. Focus group discussion (FGD) was employed to collect the data. The participants consisted of 18 students of an English Education Department of a private university in Yogyakarta. The data showed that online discussion had several advantages including interesting learning formats, flexibility, improved ideas and the improvement of writing skills. Of the three stages of the CoI framework including teaching, social and cognitive presence, only one stage had been well articulated, namely cognitive stage.*

Keywords: *blended learning environment; CoI framework; online discussion; learning community*

I. Introduction

Educators, amid the emergence of the online and blended learning environment, are required to create instructional design that lead to the success of teaching and learning process. Online learning can be defined as a learning method developed by the use of both synchronous and asynchronous strategies while blended learning refers to integration of online and face-to-face learning [1]. Despite this simple definition, the incorporation of blended and online learning seems far from being simple especially if it is seen from the instructional design. According to Duffy and Kirkley [2], the instructional design that can ensure the students engagement become a factor that determine the quality of blended learning environment. Unsatisfactory educational experiences are often related to learning environment that are poorly designed.

Developing learning communities by increasing student's participation has been recently been given much attention [3]; [4]. Conrad [4] defines a community as a "general sense of connection, belonging and comfort that develops over time among members of a group who share purpose and commitment to a common goal". Palloff and Pratt [5] argued that the sustenance and creation of a learning community through community participation is a key to students' learning and satisfaction. As

¹ Universitas Muhammadiyah Yogyakarta, Indonesia

² Universitas Ahmad Dahlan, Indonesia

confirmed by empirical research, there is a positive correlation between a sense of community and students' learning and satisfaction [6]; [7]; [8]; [9]. Unless the learning environment allows interaction in the online or blended learning, however, as pointed out by Colachico [4], creating an effective learning community is an uneasy process.

The community of inquiry (CoI) framework has been proposed by Garrison, Anderson and Archer [10] to promote effective learning communities and their concept has been received considerable interest. Providing a set of guidelines and a well-structured model to develop effective learning communities in the blended and online learning environments, the CoI framework emphasizes the collaboration and critical thinking [11].

CoI framework consists of three structural elements including social, cognitive and teaching presence. The learning process is promoted through the interaction of these three components. The pedagogical philosophy underlying the CoI is a collaborative constructivist view of teaching and learning [12]. As Cleveland-Innes and Garrison and Kinsel [13] put it, in the collaborative and constructivist view, community of inquiry is a place where individuals interact in order to construct meanings and understanding, thus representing a personal as well as public search for understanding and meaning. In their study, Shea and Bidjerano [8] suggested that a community of inquiry can better extend and articulate epistemic engagement approach of learning which allows learners to construct knowledge collaboratively.

Garrison defines social presence as the participants ability to cultivate inter-personal relationships, identify with community, and communicate with purpose using their individual personalities [11]. As it sustains, supports and instigates critical thinking in a community of learners, social presence serves as an important condition for critical discourse and collaboration [12]. Social presence can be divided into three categories including affective expression, open communication and group cohesion. Effective responses occur when the humour, emotions and self-disclosure expression support interpersonal relationships. Purposeful communication is made possible by the interaction, recognition and encouragement of reflective participation. Group cohesion is created by the use salutations, name address and inclusive pronouns such as we and our [12]. One strategy to foster social presence in the online learning environment is by conducting online discussion done either synchronously or asynchronously. Hammond (2005) found that "asynchronous discussion is offering the additional values by providing students with experiences of their computers as a communication tool and opportunities to take a part in a group work" (p. 1)[14]. To help teachers and students as the member of community of inquiry to be able to engage with the online discussion, a training on digital literacy becomes a need [15].

Garrison, Anderson, and Archer (2001) [10] define cognitive presence as "the extent to which the participants in any particular configuration of a community of inquiry are able to construct meaning through sustained communication" (p. 11). Cognitive presence can be operationalized through four stages including triggering event, exploration, integration, and resolution. Triggering event involves providing a problem to be solved while exploration stage necessitates process of understanding of the problem and search for information to engage with the problem. In the integration stage, construction of meaning is focused and structured. The integration phase involves a focused and structured construction of meaning. Resolution, the final phase, involves the construction of a meaningful framework by finding specific solutions.

Teaching presence refers to "the design, facilitation and direction of cognitive and social processes for the purposes of realizing personally meaningful and educationally worthwhile learning outcomes" [15]. Teaching presence functions as regulating and mediating all CoI elements in a functional and balanced relationship which is in line with the learners' needs and capability and the desired learning outcomes [12]. Teaching presence includes three categories comprising design and

organization, facilitating discourse and direct instruction. Design and organisation are concerned with the macro-level structure in terms of the learning experience while facilitating discourse refers to process of fostering students' engagement, interest and motivation. Direct instruction, the third category, is related to more particular issues including transferring knowledge from various sources, identifying misconception and summarizing discussion [12]. The use of the term 'teaching' instead of 'teachers, implies the distribution of responsibilities of both teachers and learners for learning to occur.

The three elements of the CoI framework have been confirmed in several studies [17]; [7]; [18]. However, little attention in the research studies is given to how online discussion as the backbone of the CoI framework really articulate the CoI principles. This current study is, therefore, aims to fill the gap by posing two research questions namely "what are the advantages of the online discussion?" and "to what extent has online discussion articulated the CoI principles?"

II. Methods

This study employed a qualitative design, using focus groups as a tool for acquiring various viewpoints of the participants in a short period of time. The strength of the focus group interviews is that interaction among participants tends to stimulate richer or deeper expressions of opinions. The study was guided by two research questions:

- "What are the advantages of the online discussion?"
- "To what extent has online discussion articulated the CoI principles?"

The term CoI here is used to denote the CoI framework proposed by Garrison, Anderson and Archer consisting of three elements including social, cognitive and teaching presence [18]. The questions were grounded in this study goal to conceptualize students' perceptions on the advantages of the online discussion and on the extent to which online discussion has articulated the CoI principles. This goal is intended to reach to further aim that is to design online learning instructions which articulate the improved students' engagement through CoI framework. The first question focused on the implementation of the online discussion which is the core activity in the CoI framework. The second question directs attention towards aspects of CoI which has or has not been implemented in the online discussion, assuming the findings may serve as bases for the improvement in the area of blended learning or online learning instruction.

Defining the main issues of the current study, the research questions were used by the researchers to steer the discussion and to maintain focus. The research question also guided the structure of the focus group discussion.

2.1. Context

The data were gathered during the teaching period using online learning discussion of 260 students of an English Education Department of a private university in Yogyakarta, Indonesia. All 15 English lecturers in this study program had implemented blended learning in teaching English. As a part it, it was mandatory for lecturers to include online discussion as one of online learning activities.

2.2. Participants

When we invited the participants, we selected students with a certain amount of having sufficient experiences in the

blended learning environment; hence, they had been exposed to online discussion. These criteria led us to invite English Education Department students in the fifth, sixth and seventh semester who had experiences in studying using online learning since the first semester. The participants were invited through their lecturers. The three groups were composed as follows:

Group 1: Mixed group of seven students.

Group 2: Mixed group of six students.

Group 3: Mixed group of five students.

2.3. Data Collection

Each group was interviewed once (five interviews altogether) in sessions lasting about one hour. The interviews were conducted by two researchers to avoid “moderator dominance” and to ensure reliable observation [20]. After the fifth interview, little variation was found in the recorded data. As there was no new identified information, the interview process was ended (ibid, 1997).

A reflective diary and field notes were also deployed to record non-verbal information during the focus group discussion. Audiotaped recordings of each group session were transcribed and analysed prior to carrying out the next group interview. An interview guide was prepared to guide the researchers. After each interview session, the interview guide was modified in order to focus on areas that requires further investigation.

2.4. Data Analysis

Data analysis was done to capture textual content associated with the research questions based on the transcribed data [20]. The collected data was subsequently compiled into one text that would be scrutinized by the researchers and became subject of qualitative content data analysis (ibid, 2004). Then, groups of word phrases that reflected similar context and content representing “meaning units” were identified, condensed and coded. Following this, the data which had been coded were organized into sub-themes and combined into themes reflecting the content of advantages of online discussion and the extent to which the online discussion has articulated the principles of CoI as summarized in tables one and two. In order to reduce subjective bias and to enrich reflection and interpretation of the data, data were analysed collaboratively by all the researchers [21]; [22]. The analysis was discontinued when saturation of themes and contents were obtained.

Table 1 Theme and Subthemes within “advantages of online discussion

Theme	Advantages of online discussion
Sub-themes	Interesting learning format Flexibility Improved ideas Improvement of writing skill

Table 2 Theme and Subthemes within “the articulation of CoI in the online discussion”

Theme	The articulation of CoI principles in the online discussion
Sub-themes	<p>Teaching presence</p> <ul style="list-style-type: none"> • Design and organization • Facilitation • Direct instruction <p>Social presence</p> <ul style="list-style-type: none"> • Affective expression • Open communication • Group cohesion <p>Cognitive presence</p> <ul style="list-style-type: none"> • Triggering event • Exploration • Integration • Resolution

III. Result

The analysis identified two major themes that resonated across all three groups, which were labelled as advantages of online discussion and the articulation of CoL in the online discussion. The following sections present both main themes and the corresponding sub-themes, which are summarized in table 1 and 2.

3.1. Advantages of online discussion

The coding introduced three subthemes, namely interesting learning instruction, flexibility, improvement of writing skill and creativity (see table 1) that were subsumed under the main theme “advantages on online discussion’. The data strongly confirmed that the use of online discussion brought about the following advantages:

Interesting learning format

The students perceived the online group discussion as being interesting. They explained that different from face-to-face learning, they had opportunities to use their cell phone to participate in the online discussion.

One student stated:

I enjoy online group discussion since it is similar to using the social media. In the social media I can chat and share experiences and feelings with my friends and so is in the online group discussion. Furthermore, I have opportunities to be involved in the online discussion using my cell phone, an experience that I never have in face-to-face class (Student 3-group 1).

Some students coined the term 'mobile learning' when it comes to using the cell phone for online discussion. They asserted that as they were accustomed to using the cell phone every day, online discussion was felt as a familiar thing for them. The students explained that an interesting aspect of the online discussion was that they could use enough time to think the response before they post it in the online discussion.

Flexibility

Online discussion was perceived as being more flexible than face-to-face classroom. They described the notion of flexibility in terms of time and place. Regarding time, students stated that through asynchronous approach, responses to be posted in the discussion board did not need to be made immediately. Instead, they can participate in the discussion anytime. In fact, in the students' opinion, the asynchronous modus became their preference because it was more flexible in time and place. In terms of place, the involvement in the online discussion could be done anywhere.

One student explained:

With my cell phone always with me every time, I can open the online discussion everywhere, and of course I can also engage with my friends in the online discussion forum. What I need is just internet connection (Student 4-group 2)

With the flexibility in terms of time and place, students had a perception of being encouraged to be more confident in the discussion. Some expressed that they were less frustrated when involving themselves in the online discussion forum.

Comparing online and face-to-face discussion, one student said:

In the face-to-face class, I often feel reluctant in sharing my opinions in the discussion group. I am afraid if I made mistakes in expressing my ideas in English. On the contrary, in the online discussion, I don't need to be afraid because I don't speak, but write my ideas. I have time to manage my thought and put in in written idea (Student 1-group 3)

Improved ideas

All three student groups found that online discussion was helpful in creating quality discussion. While comparing the online discussion with face-to-face meeting, they recalled that in online discussion, especially asynchronously, they could read resources to support their arguments when commenting in the discussion board.

One student commented:

In face-to-face discussion, I normally do not have time to prepare my responds as time is limited so that I cannot have quality comments. In asynchronous online discussion I have much time to read resources so that my comments are reasonable as they supported by sound arguments (Student 1-group 1).

Because of quality comments in the online discussion, students in the three groups expressed that they managed to

obtain improved understanding and more comprehensive knowledge. They added that such a condition was not found in the face-to-face discussion because of the spontaneous nature of the face-to-face discussion.

One student related the presence of the quality comments in the online discussion with the term ‘productive discussion’:

I think online discussion should encourage students to be more productive in sharing ideas or opinions because they have time to make preparations and to read extensively (Student 4-group 2).

Improvement of writing skill

Students in all three groups describe online discussion as a place to train their writing skills. This said that some lecturers created stimulated questions which required students to use their problem solving and critical thinking skills.

One student stated:

In online discussion, I am forced to write because otherwise I cannot participate in the discussion forum. Some lecturers usually require us to give longer comments rather than one or two sentences. I think this is the way I can train my writing skills.

3.2. The articulation of CoI in the online discussion

The analysis elicited three subthemes, namely teaching presence, social presence and cognitive presence. The teaching presence is divided further into sub-sub themes including design and organization, facilitation and direct instruction while the social present consists of sub-sub themes, namely affective expression, open communication and group cohesion. The cognitive presence is broken down into triggering event, exploration, integration and resolution.

Teaching presence

In terms of design and organization, the participants in all three groups explained that lecturers had performed some of their roles as the *designer and organizer* of the course. Most of the lecturers were described as good communicators by students. One student detailed the description:

In the online learning the lecturers communicate important course topics by posting the comprehensive lesson plans in the e-learning system. The lesson plan consists of the goals of the course, the topic in each meeting, the assessment systems and rubrics as well as the resources used in the course (Student 5-group 3).

The students in the three groups asserted that in the lesson plan, the students were informed about activities they would do in each meeting. However, some students also expressed a concern on the limited guidance provided by lecturers in how the discussion should be conducted. Hence, while some students acknowledged that they were challenged to write longer, many students in the class only posted short sentences when commenting on questions.

With regard to lecturers’ facilitation, students recalled that few elements of the lecturers’ facilitative role had been performed while some elements were missing. In the students’ perception, the lecturers were helpful in identifying areas of agreement and disagreement on course topics that helped students to learn. Lecturers were also described as being successful in guiding the class towards understanding course topics in a way that helped students clarify their thinking.

However, students asserted that lecturers had not effectively help students to engage and participate in productive dialogue in the discussion forum. Lecturers were only active at the beginning of the discussion but became passive in handling, commenting and giving feedback when the discussion ran. As a result, students felt that they were not assisted to keep themselves on task in a way that help them to learn, nor were they encouraged to explore new concepts in the discussion forum.

Meanwhile, as explained by students in the three groups, lecturers' role as direct instructors was not present. One student explained:

While lecturers give questions to encourage discussions, they do not provide feedback so that we sometimes don't have a sense of direction in our discussion. Some lecturers do give feedback back often time their feedback is not in a timely fashion (Student 3-group 3).

Social Presence

As perceived by students in the three groups, the affective expression as the first sub-sub theme of the social presence had not been implemented in the online discussion. The students felt that they were not encouraged to introduce each other and created a sense of belonging to discussion groups as a community of learning. The introduction session was only conducted in the face-to-face class.

As the elements of affective expression were absent in the online discussion forum, students found that group cohesion was not well experienced. This was confirmed by some comments expressed by students. One student from group 1 said that she felt uncomfortable disagreeing with other students although she managed to maintain a sense of trust. One student from group 2 asserted that his opinion was not acknowledged by other students while another student from group 3 pointed out that online discussion had not helped her to develop a sense of collaboration.

Students in the three groups expressed positive perception with regard to the communication process. They were of the opinion that the communication was open. This notion of 'open communication' was expressed by the students through different phrases. A student in group one, for instance, explained: "I felt comfortable having conversation through the online medium". A student in group 2 stated: "I felt enjoyable participating in the online discussion".

Cognitive Presence

The first sub-sub theme of the cognitive presence is triggering event. As acknowledged by students in the three groups, some problems posed in the discussion board did increase interest in the course issues. However, as the lecturers' involvement as a facilitator was minimum, discussion failed to pique students' curiosity. Even one student from group 3 said, "I sometimes felt demotivated to explore content related questions".

Regarding the exploration stage in the cognitive presence, students contended that they had done the following strategies: 1) using a variety of information sources such as journal articles and books to explore problems posed in the discussion forum; 2) brainstorming and finding relevant information to solve the content related questions and 3) understanding different perspectives from the resources.

In the integration stage, students expressed that using the new information obtained in the exploration stage, students managed to answer the questions raised in the discussion forum and construct solutions based on the obtained information. However, reflection, as an important stage in the cognitive presence was not done, hence students lost the chance to explore the fundamental concepts of the topic.

Finally, in the resolution stage, as pointed out by students in the three groups, students contended that they were able to apply the knowledge they gain from the discussion to be applied in the real practice. When commenting on the Curriculum Design course, for example, a student stated:

In the Curriculum Design course, we have discussed an issue of the need analysis. From the ideas and opinions of the group, I became aware of the elements and steps needed to do the need analysis in designing the course materials. Then, when I had an assignment from my lecturer, I use that knowledge to do my assignment (student 6-group 2).

IV. Discussion

The aim of the study was to explore the advantages of online discussion and to investigate the extent to which the online discussion has articulated the CoI framework. The results showed that the students of an English education department of one private university of Yogyakarta perceived online discussion as beneficial and provide some advantages including interesting format, flexibility, improved ideas and improvement of writing skills. The findings confirmed the previous studies. Andersen [23] found that online discussion is beneficial because it allows the people who need more time to participate in the discussion. Duncan's (2012) study revealed that both synchronous and asynchronous forums will help maximize student performance [24].

For the second aim of the study, namely to investigate the extent to which the online discussion has articulated the CoI framework, some stages of the CoI principles had been present and some others are not. In terms of teaching presence, the area of strengths was that lecturers had acted as an effective communicator of the course as they had posted the lesson plans that informed students about comprehensive information about the course, ranging from the goals to the course assessment.

Lecturers were also perceived as being successful in enabling students to understand course topics which helped them clarify their thinking. However, the facilitating role of the lecturers were not present such as lecturers' inactiveness in handling, controlling and giving feedback during the discussion, hence failing to encourage students to be engage in the discussion. This is rather counterproductive because students' engagement is considered significant to improve learning.

In the earliest study, Pascarella and Terenzini [25] found that the students' engagement in academic work has positive correlation with the level of knowledge acquisition and general cognitive development. Edgerton [26] underlined the importance of engagement in tasks in the learning process. The benchmarks of effective educational studies proposed by Astin (1999) [27] 'theory of student involvement' and Chickering and Gramson [28] 'principles of good practice in undergraduate education' confirmed the vital role of faculty members in fostering students' interaction as well as active and collaborative learning. In fact, according to Vaughan, Cleveland-Innes and Garrison [29], the term 'teaching presence' and not 'teacher presence' implies shared responsibility of both teachers and students in the learning process. However, teachers need to negotiate requirements, clarify expectations, diagnose misconceptions and engage in critical discourse and

assess understanding. Teachers need to “attend the needs and capabilities students bring to the experience” [29].

Much criticism was expressed by students with regards to social presence in that most of the elements of the social presence was absent. The students stated that they lacked social cohesion in the online discussion. This was due to the absence of lecturers’ direct instruction to students to introduce each other in the online learning. Also, students felt uncomfortable when disagreeing with others and did not feel that their opinions were appreciated. This was discrepancy in the context of the social presence. As Vaughan, Cleveland-Innes and Garrison [29] pointed out, social present is not merely a ‘feel good’ issue but it should set the environmental condition for higher learning. For higher learning to occur, the exchange of ideas should be encouraged and the condition to agree and disagree with others’ opinion should be allowed. The well established interpersonal and open communication will lead to cognitive presence [29].

In the cognitive stage, despite interesting issues raised in the discussion board, the instructor seemed to fail to act as an effective facilitator, hence being unable to trigger students’ curiosity in learning. According to Vaughan, Cleveland-Innes and Garrison [29], clear expectations and understanding in the process of inquiry should be presented and discussed in the early stages of the course. This implies that lecturers should take an active role in clarifying these understanding and expectation.

In the exploration phase, as a part of cognitive stage, students had managed to use systematic steps prior to answer the problems in the discussion, comprising finding variety of information, understanding the different perspective from the sources and choosing the information to solve and answer the problems, leading smoothly to the next phase, namely the integration stage.

In the integration phase, while students were able to use information to answer the questions posed in the discussion, they did not carry out reflection. This was incongruent with the principle of cognitive presence since “the learners are able to construct and confirm meaning through sustained reflection and discourse in a critical community of inquiry” [19].

V. Conclusion

Based on the group interviews with students of an English education department, the current study demonstrated that the advantages of online discussion are interesting learning formats, flexibility, improved ideas and the improvement of writing skills. Regarding the articulation of the CoI in the online discussion, elements of the CoI which were reflected in the online discussion emerged in all three stages, namely teaching, social and cognitive presence. In terms of teaching presents lecturers, the design and organization of the discussion topics had been well clarified and communicated by lecturers. However, there were drawbacks such as limited guidance provided by lecturers, the absence of encouragement for engagement and the absence of sense of direction. Briefly, the drawbacks overweight the strengths. Hence, the teaching presence had not been well articulated.

Related to social presents, more elements of the CoI framework consisting of affective expression and group cohesion were not articulated absent. Students were not encouraged to know each other well online nor were they comfortable to agree and disagree with their peers. They did not feel that their opinions are appreciated. The online element being present was open communication. Thus, the social presence was not well articulated in the online discussion. Finally, in terms of cognitive presence, more elements of CoI had been articulated including in phases of triggering events, exploration,

integration and resolution. One aspect of this stage had not been well articulated, namely reflection. To conclude, of the three stages of the CoI framework including teaching, social and cognitive presence, only one stage had been well articulated, namely cognitive stage.

Acknowledgements

We are very grateful to experts for their appropriate and constructive suggestions to improve this template.

REFERENCES

- [1] Akyol, Z., Garrison, D.R., & Ozden, M.Y. (2009). Online and Blended Communities of Inquiry: Exploring the Developmental and Perceptual Differences. *International Review of Research in Open and Distance Learning*, 10 (6)
- [2] Duffy, T., & Kirkley, J. R. (2004). *Learner-centered theory and practice in distance education: Cases from higher education*. Mahwah, NJ: Lawrence Erlbaum.
- [3] Colachico, D. (2007). Developing a sense of community in an online environment. *International Journal of Learning*, 14(1), 161-165.
- [4] Conrad, D. (2005). Building and maintaining community in cohort-based online learning. *Journal of Distance Education*, 20(1), 1-21.
- [5] Palloff, R. M., & Pratt, K. (2005). *Collaborating online: Learning together in community*. San Francisco: Jossey-Bass.
- [6] Liu, X., Magjuka, R.J., Bonk, C.J., & Lee, S. (2007). *Does sense of community matter? An examination of participants' perceptions of building learning communities in online courses*, *Quarterly Review of Distance Education*, 8(1), 9-24.
- [7] Shea, P., Li, C.S., & Pickett, A. (2006). *A study of teaching presence and student sense of learning community in fully online and web-enhanced college courses*. *The Internet and Higher Education*, 9(3), 175-190.
- [8] Shea, P., & Bidjerano, T. (2009). Community of inquiry as a theoretical framework to foster “epistemic engagement” and “cognitive presence” in online education. *Computers & Education*, 52(3), 543-553.
- [9] Ngai, P., (2019), Online social networking and transnational-competence development among international students from japan., *Journal of International Student*, 9 (2), 432-459, DOI: <https://doi.org/10.32674/jis.v9i2.607>.
- [10] Garrison, D.R., Anderson, T., & Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education. *The Internet and Higher Education*, 2(2-3), 87-105.
- [11] Garrison, D. R. (2009). *Communities of inquiry in online learning: Social, teaching and cognitive presence*. In C. Howard et al. (Eds.), *Encyclopedia of distance and online learning* (2nd ed., pp. 352-355). Hershey, PA: IGI Global.

- [12] Garrison, D.R., & Anderson, T. (2003). *E-Learning in the 21st century: A framework for research and practice*. London: Routledge/Falmer.
- [13] Cleveland-Innes, M., Garrison, D., & Kinsel, E. (2007). Role adjustment for learners in an online community of inquiry: Identifying the challenges of incoming online learners. *International Journal of Web-based Learning and Teaching Technologies*, 2(1), 1-16.
- [14] Hammond. (2005). A review of recent papers on using online discussion within teaching and learning in higher education. *Journal Asynchronous Learning*, 9(3), 1092-8235.
- [15] Pratolo, B.W. & Solikhati, H. A. (2020). The implementation of digital literacy in Indonesian suburban EFL classes. *International Journal of Scientific & Technology Research*, 9(10), 1508-1512
- [16] Anderson, T., Rourke, T.L., Garrison, D.R., Archer, W. (2001). Methodological issues in the content analysis of computer conference transcripts. *International Journal of Artificial Intelligence in Education*, 12 (8-22).
- [17] Arbaugh, J.B. (2007). An empirical verification of the community of inquiry framework. *Journal of Asynchronous Learning Networks*, 11(1), 73-84.
- [18] McKlin, T., Harmon, S.W., Evans, W., & Jones, MG. (2001). Cognitive presence in web-based learning: A content analysis of students' online discussions. *American Journal of Distance Education*, 15(1), 7-23
- [19] Garrison, D. R., Anderson, T., Archer, W. (2001). Critical thinking, cognitive presence, and computer conferencing in distance education. *American Journal of Distance Education*, 15(1).
- [20] Morgan, D (1997), *Focus group as qualitative research*, Thousand Oaks: Sage Publication
- [21] Graneheim, U.H., Lundman, B. (2004). *Qualitative content analysis in nursing research: concepts, procedures and measure to achieve trustworthiness*. *Nurse Educ Today*, 24(105-112).
- [22] Polit, D.F., Beck, C.T. (2008), *Nursing research: Generating and assessing evidence for nursing practice*, Philadelphia Lippincott: Williams & Wilkins
- [23] Andresen (2009), Asynchronous discussion forums: Success factors, outcomes, assessments and limitation, *Educational Technology and Society*, 12(1), 249-257
- [24] Duncan, K.K. (2012). The effect of synchronous and asynchronous participants on students' performance in online accounting course. *Bond University School Publication*, 2-4.
- [25] Pascarella, E & Terenzini, P. (2005). *How college affects students: A third decade of research*, San Francisco: Jossey Bass.
- [26] Edgerton, R. (2001), Education white paper. Report prepared for the Pew Charitable Trusts, *Pew Forum on Undergraduate Learning*, Washington DC.
- [27] Astin, A. (1999), Student involvement: A developmental theory for higher education, *Journal of College Student Development*, 49(5), 518-529.
- [28] Chickering, A.W & Gramson, Z.F. (1999), Development and adaptation of the seven principles for good

practice in undergraduate education. *New Direction for Teaching and Learning*, 80 (75-82).

- [29] Vaugan, N.D., Cleveland-Innes, M. & Garrison, D. (2013), *Teaching in blended learning environment*, Athabasca: Au Press